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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/390,255	09/03/1999	TINKU ACHARYA	INTL-0210-US	6618

7590 04/19/2002

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EXAMINER

JOHNSON, TIMOTHY M

ART UNIT	PAPER NUMBER
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2623

DATE MAILED: 04/19/2002

*5*

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/30/255

Applicant(s)

Acharya et al.

Examiner

T. Johnson

Group Art Unit

2623

--The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address--

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

## Status

- ☐ Responsive to communication(s) filed on \_\_\_\_\_.
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- ☒ Claim(s) 1-15 is/are pending in the application.
- ☐ Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- ☒ Claim(s) 1-15 is/are rejected.
- ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- ☐ Claim(s) \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
  - ☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been received.
  - ☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_.
  - ☐ received in this national stage application from the International Bureau (PCT Rule 1.7.2(a)).

\*Certified copies not received: \_\_\_\_\_

## Attachment(s)

- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s) 4
- ☐ Interview Summary, PTO-413
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Other \_\_\_\_\_

Office Action Summary

**Part III Detailed Action**

**Disclosure**

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The Examiner suggests the following title:

"Wavelet Zerotree Image Coding of Ordered Bits".

**Claim Rejections - 35 USC § 102**

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

3. Claims 1-15 are rejected under 35 U.S.C. § 102(e) as being anticipated by Zandi et al., 6,222,941 B1.

For claim 12, a computer system with a processor and a memory storing a program to cause the processor to zerotree encode wavelet coefficient data is provided by Zandi in at least the paragraph bridging cols. 4-5, the first two and the last full paragraphs in c. 5. Providing wavelet coefficients that indicate an image is provided by Zandi in at least Fig. 1A, block 102, and Figs. 3A – 4C and 5. Representing each wavelet coefficient as a collection of ordered bits is provided by Zandi in at least the penultimate full paragraph in c. 2, c. 6, lines 1-67, the section bridging cols. 16-17, the second and third full paragraphs in c. 24, the paragraph bridging cols. 29-30, the second full paragraph in c. 30, the section bridging cols. 31-32, and the section bridging cols. 40-41. Coding the bits of each order to indicate zerotree roots associated with the order is provided by Zandi in at least where cited above and the section starting in col. 22, around lines 57-58 to col. 27, line 26, the section starting around line 65 near the bottom of col. 28, and the section starting near the bottom of col. 35, and see also at least Figs. 1A-1B, most/all of Figs. 6A-9B indicating zerotree based coding.

For claims 1 and 7, see the rejection of at least claim 12.

For claims 2, 8, and 13, determining which of the bits indicate zeros and classifying each zero as either an isolated zero or a zerotree root is provided by Zandi where cited above, where the coefficients including zero data bits are classified, inter alia, as an isolated zero or a zerotree root.

For claims 3, 9, and 14, wherein some of the wavelet coefficients are descendants of some of the other wavelet coefficients is clearly indicated where cited above and determining zeros by traversing a descendant tree from a bit associated with one of the wavelet coefficients to bits associated with the other wavelet coefficients to locate zerotree roots is provided by Zandi such as, for example, at least the tree as shown and disclosed.

For claims 4, 10, and 15, wherein the act of providing wavelet coefficients that indicate an image produce different levels of the code, each level being associated with a different resolution of the image is provided by Zandi where cited above, especially with respect to the figures which show the multi-resolution structure.

For claims 5 and 11, wherein the levels that are associated with lower resolution are associated with higher orders is provided by Zandi in at least the section starting in c. 7, and with respect to the trees shown in the figures such as those cited above, where higher orders correspond to lower resolutions in the tree orders of the transform.

For claim 6, wherein the act of providing wavelet coefficients comprises providing intensity level coefficients that indicate pixel intensities of the image and transforming the intensity level coefficients into wavelet subbands is provided by Zandi including the Background in at least c. 1, lines 33-39, the second full paragraph in c. 2, the penultimate full paragraph in c. 5, the section starting in col. 7 in general, particularly the third full paragraph in c. 7, the

paragraph bridging cols. 11-12, and c. 14, line 16 – c. 16, line 3, c. 16, lines 48 – 67, and the section starting near the bottom of col. 22.

#### **Contact Information**

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy M. Johnson whose telephone number is (703) 306-3096.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone numbers are (703) 305-4700 or (703) 305-4750.

The Group Art Unit FAX number is 703-872-9314.

TJ  
Timothy M. Johnson  
Patent Examiner  
Art Unit 2623  
April 18, 2002

  
TIMOTHY M. JOHNSON  
PRIMARY EXAMINER